

## CLAIMS

1. A cryptographic apparatus in a radio communication system for having an audio signal subjected to a frequency spectrum inversion process, wherein said audio signal is transmitted through a radio communication network linked to said radio communication system, the cryptographic apparatus comprising a transmitter circuit and a receiver circuit, wherein said transmitter circuit is constructed of: a transmitter-side frequency spectrum inversion/non-inversion circuit including a frequency spectrum inversion circuit; a CPU for generating a control signal; a transmitter-side frequency spectrum inversion/non-inversion change-over switch; and, a sub-carrier oscillator, wherein: said receiver circuit is constructed of : a receiver-side frequency spectrum inversion/non-inversion circuit including a frequency spectrum inversion circuit; a receiver-side frequency spectrum inversion/non-inversion change-over switch; said CPU for generating said control signal, said CPU being used also in said transmitter circuit; and, a sub-carrier oscillator.

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2. The cryptographic apparatus in the radio communication system as set forth in claim 1, wherein: said audio signal is transmitted in a first condition in which said audio signal has been subjected to said frequency spectrum inversion process, and also transmitted in a second condition in which said audio signal is free from said frequency spectrum inversion process, wherein transmission of said audio signal is performed alternately in said first and said second condition in precisely timed sequence.